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REMARKS

Claims 158-199 are pending herein. Claim 158 has been amended to better define the discontinuous nature of the adhesive used to bond the layers and to better recite the location of the adhesive bridges. Support for this amendment comes from the specification as filed, e.g., at paragraph no. [0129]:

[0129] One preferred nonwoven fabric of the present invention has parallel yarns held in a substantially parallel and nontwisting relationship in the form of a nonwoven, fabric-like sheet. Such materials are referred to herein as warp yarn substrates, and two manufacturing units for the formation of such substrates have been developed. In each case, adhesive is applied to one side of the parallel yarns. The adhesive is advantageously applied in a random pattern, forming bridges of adhesive between parallel yarns. These adhesive bridges provide the backbone of the warp yarn substrate, giving it fabric-like flexibility and feel. The bridges also hold the parallel positioning of the fibers and prevent twisting of individual fibers.

Accordingly, no new matter has been added by virtue of this amendment.

Claims 158-160, 164, 169, 170, 178-180, 186, and 193-199 are rejected under 35 U.S.C. §102(b) as being anticipated by Bascom (US 3582443). This rejection is respectfully traversed.

Anticipation requires identity of invention. Bascom does not anticipate amended Claim 158 et al. because Bascom neither teaches nor suggests the claimed non-uniform, i.e., discontinuous, random bridges of adhesive applied to the first layer of yarns, as recited in the amended claim, which carries through to the claims that depend either directly or indirectly with Claim 158.

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Instead, Bascom teaches a "continuous" or uniform adhesive coating, applied to either one set of the perpendicular yarn sets, or to both yarn sets. More particularly, Bascom discloses a process of making non-woven fabrics by applying adhesive essentially only between warp-direction fibers WS and weft-direction fibers CS. See column 7, lines 32-35 and column 9, lines 57-61. The processes described by Bascom requires highly controlled application of adhesive to selected individual warp strands and/or selected individual cross strands, with other of the warp and cross strands remaining free of adhesive. See Claim 1.

Since nothing is taught or suggested about bridges that randomly contact and link parallel yarns of the first layer of parallel yarns, as claimed herein, Bascom fails to anticipate the rejected claims.

Reconsideration and withdrawal of the Section 102(b) rejection of Claims 158 - 160, 164, 169, 170, 178-180, 186, and 193-199 are respectfully requested.

Claims 158-160, 164, 165, 169, 170-173, 178-180, 186, 193, 197, and 198 are rejected under 35 U.S.C. §102(b) as being anticipated by Harwood (US 2900980). This rejection is respectfully traversed.

As above, anticipation requires identity of invention. Harwood does not anticipate amended Claim 158 et al. because Harwood, at best, teaches only part of the claimed invention - namely the discontinuous application of adhesive on one side of the first layer of substantially parallel yarns in a non-uniform manner. See the intentional gaps of missing adhesive (11) on threads (7) in Figure 2.

Nothing is taught or suggested in Harwood about bridges that randomly contact and link parallel yarns of the first layer of parallel yarns - as claimed herein.

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More particularly, Harwood discloses a process of making a non-woven fabric by: i) passing warp-direction threads 7 over an adhesive coating roll 12 that coats discontinuously the length of the warp-direction threads 7 but seemingly coats the entire circumference of coated portions of the warp-direction threads 7; and ii) then applying weft-direction threads 8 to the adhesive coating 10 on top of the warp-direction threads 7. See Col. 3, lines 54-72.

Clearly, this patent neither teaches nor suggests the bridges of adhesive between parallel yarns as recited in the present claims. Accordingly, the Section 102(b) rejection of Claims 158-160, 164, 165, 169, 170-173, 178-180, 186, 193, 197 and 198, should be reconsidered and withdrawn. Such action is respectfully requested.

Claims 158-167, 169-189, and 192-199 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hartstein (US 3591434) in view of Bodford et al. (US 5342469). This rejection is respectfully traversed.

The proposed combination of Hartstein and Bodford does not make the rejected claims obvious, for the following reasons:

The rejection implies that the bridges as claimed are formed between the first and second layers. This is incorrect, and Claim 158 as amended makes it clear that the bridges claimed herein are between parallel yarns of **the first layer** – not between yarns of the first and second layers. Accordingly, this proposed combination of art does not make the claimed invention obvious.

Moreover, there is now a clear requirement in amended Claim 158 that the adhesive layer is not uniform – it is both “discontinuous” (non-uniform) and it forms random bridges between substantially parallel yarns of the first layer.

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Hartstein clearly teaches a set of parallel yarns that are bonded to one side of a self-supporting, discrete thermoplastic film, thereby forming a uni-axial laminate. A second set of parallel yarns are cross-laid to the uniaxial laminate on the other side of the thermoplastic film, forming a bi-axial laminated non-woven fabric. Nothing in Hartstein teaches or suggests the bridges claimed herein, which are randomly formed to connect parallel yarns of the first layer.

Bodford teaches combining two substrates (12, 14) by an adhesive structure (20) formed of an array of substantially linear filaments or strands of adhesive. These linear strands are discontinuous, but not random in orientation – as they are substantially unbroken and uncrossed. Nothing in Bodford teaches or suggests the bridges claimed herein, which are randomly formed to connect parallel yarns of the first layer.

Moreover, while Bodford states that the adhesive is “discontinuous” – the teachings of the specification define a nearly uniform adhesive structure – with substantially unbroken linear filaments, having uniform diameter, with only incidental overlap, resulting in a layer having substantially uniform thickness. See Col. 3, line 60 to Col. 4, line 20.

Clearly the teaching of Bodford fails to make up the deficiencies of the primary reference. Bodford merely discloses a process of making a laminate (called a “composite”) by applying an array 20 of strands of adhesive between a non-woven substrate 12 and a continuous plastic film 14 --- not between warp-direction and weft-direction yarns.

Also, Applicant submits that the proposed combination of Hartstein and Bodford is simply not logical. Hartstein uses a uniform material - a self-supporting, discrete thermoplastic film – as the adhesive for his composite sandwich of substrate materials.

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In contrast thereto, Bodford deposits an array 20 of strands of adhesive between a non-woven substrate 12 and a continuous plastic film 14 – in order to form his composite sandwich of substrate materials.

Why would the skilled artisan combine these two references? Hartstein makes one type of product and Bodford makes another type of product. The teachings are simply not combinable as suggested.

Accordingly, the Section 103(a) rejection of Claims 158-167, 169-189, and 192-199 should be reconsidered and withdrawn. Such action is respectfully requested.

Claims 168, 190 and 191 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hartstein in view of Bodford et al. and further in view of Pittman (US 3753842). This rejection is respectfully traversed.

The proposed combination of Hartstein (US 3591434), Bodford (US 5342469) and Pittman (US) does not make Claims 169, 190 and 191 obvious, for the following reasons:

Hartstein and Bodford have been distinguished above. They teach nothing about the random, discontinuous bridges of adhesive claimed herein which hold the first layer of parallel yarns together. Hartstein has a self-supporting thermoplastic film as his adhesive. Bodford uses an array of substantially linear filaments or strands of adhesive.

Pittman discloses a nonwoven fabric made by adhering overlying warp yarns to weft yarns with an adhesive. However, Pittman's adhesive is applied to his yarns by "dipping" the yarns or fabric in the adhesive or by "padding or spraying" the adhesive on

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the yarns or fabric to "coat" the yarns. See column 3, lines 2-12 and column 8, lines 2-15 of Pittman.

Clearly, nothing in Pittman remedies the deficiencies of Hartstein and Bodford. The proposed combination of art simply fails to make a prima facie case of obviousness, and the Section 103(a) rejection should be reconsidered and withdrawn. Such action is respectfully requested.

Claims 161-163, 165-168, 171-174, 176, 177, 181-185 and 187-192 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bascom (US 3582443). This rejection is respectfully traversed.

Bascom does not make the rejected claims obvious, because Bascom neither teaches nor suggests the claimed non-uniform, i.e., discontinuous, random bridges of adhesive **applied to the first layer of yarns**, as recited in the amended claim, which carries through to the claims that depend either directly or indirectly with Claim 158.

Instead, Bascom teaches a "continuous" or uniform adhesive coating, applied to either one set of the perpendicular yarn sets, or to both yarn sets. More particularly, Bascom discloses a process of making non-woven fabrics by applying adhesive essentially only between warp-direction fibers WS and weft-direction fibers CS. See column 7, lines 32-35 and column 9, lines 57-61. The processes described by Bascom requires highly controlled application of adhesive to selected individual warp strands and/or selected individual cross strands, with other of the warp and cross strands remaining free of adhesive. See Claim 1.

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Since nothing is taught or suggested about bridges that randomly contact and link parallel yarns of the first layer of parallel yarns, as claimed herein, Bascom fails to make the rejected claims obvious.

Reconsideration and withdrawal of the Section 103(a) rejection of Claims 161-163, 165-168, 171-174, 176, 177, 181-185 and 187-192 are respectfully requested.

Entry of the present amendment for purposes of appeal is respectfully requested. Entry is necessary because Applicant believes that the amended claims are now in condition for allowance notwithstanding the cited art and the Examiner's arguments thereunder.

The present amendments were not submitted at an earlier date as the Examiner's rejections were believed to have been fully met by the amendments and remarks made in the response to the last Office Action. Thus, this response represents the Applicant's only opportunity to make the present amendments and remarks a part of the record in this application.

Entry is finally believed proper at this time because the amendments do not raise any new issues that would require further consideration and/or search, since they merely conform in scope to the claims already adequately and properly searched by the Examiner and they do not introduce any new matter.

FEE AUTHORIZATION

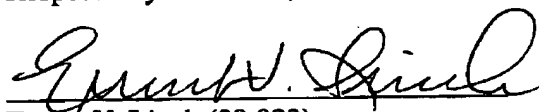
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CERTIFICATE OF FACSIMILE TRANSMISSION

The undersigned hereby certifies that this correspondence was submitted by facsimile in the USPTO on the date shown on Page 1:

Respectfully submitted,



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Document No. 120350